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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,465	01/23/2002	Toshihiko Yokoyama	02975.000015	6428

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EXAMINER

SHENG, TOM V

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 12/11/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,465

Applicant(s)

YOKOYAMA ET AL.

Examiner

Tom V Sheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. Figure 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Art in view of Muraji et al. (US 5,260,797).

As for claim 1, Admitted Art teaches a projection type image display device (figure 8; projection device 200) comprising:

a plurality of image display elements (liquid crystal panels 208, 209 and 210) for performing modulation of light rays in accordance with an image signal;

a color synthesizing optical element (color synthesizing dichroic prism 211), having at least a dichroic membrane, for synthesizing light rays having mutually different wavelength ranges that have been modulated by said plurality of image display

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elements;

a lens group having positive refractive power as a whole (positive refractive lenses 214, 215 and 216) and disposed between the image display elements and the color synthesizing optical element (as shown);

a projection optical system (projection lens group 212) for projecting an image synthesized by the color synthesizing optical element (as shown). See specification, page 1, paragraph 3 to page 2, paragraph 6.

Admitted Art does not teach a storage circuit for storing data used to correct brightness irregularity of an image projected by the projection optical system; and a brightness irregularity correcting circuit for correcting brightness irregularity of an image projected by the projection optical system on the basis of the data stored in the storage circuit.

Muraji also teaches a projection type image display apparatus. In particular, he teaches (see figures 6-8) correcting for peripheral dimming characteristics of the projection lenses 62, 63 and 64 by means of a LUT 83 for red video signal and a LUT 84 for blue video signal that reads on claimed storage circuit. Muraji further teaches a video signal correction circuit 69 that provides signal voltage corrections based on the LUTs for the red and blue video signals, resulting in a projected image free from unevenness of color, and which reads on claimed brightness irregularity correcting circuit. See column 5, line 54 to column 7, line 27.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate Muraji's video signal correction circuit and

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corresponding LUTs into Admitted Art, thus resulting in a projected image free from unevenness of color.

As for claim 2, Admitted Art teaches the use of a dichroic gradient membrane capable of correcting color unevenness in one direction. In light of this, the video signal correction circuit can be implemented to correct image in a direction different from the direction of which a dichroic gradient membrane is to be incorporated. See specification, page 2, paragraph 7 to page 3, paragraph 8.

As for claim 3, Muraji teaches the use of three field lenses 56, 57 and 58 for guiding respective red, green and blue light beams to the image display devices 59, 60 and 61. These field lenses function similarly to admitted art's positive refractive lenses 214, 215 and 216 and their effect is inherently taken into account in the color unevenness correction.

As for claims 4 and 5, Muraji teaches implementing a LUT in a ROM 26 (figure 4). As shown, the number of entries is small indicating each entry is probably designated for a predetermined area of pixels. On the other hand, it is clear to one of ordinary skill in the art that if a finer correction is desired and the processing power is sufficient, a large ROM can be implemented to correct color unevenness on a pixel-by-pixel basis.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V Sheng whose telephone number is (703) 305-6708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Tom Sheng
December 6, 2003


Amare Mengistu
Primary Examiner